

DERWENT-ACC-NO: 1988-016216
DERWENT-WEEK: 198803
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TITLE: Dual vibration frequency flow meter - has frequency
tuned inner and
outer tubes, electromagnetic exciter and magnetic,
capacitive, or optical
sensors

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PRIORITY-DATA: 1986FR-0007340 (May 13, 1986)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE
PAGES	MAIN-IPC	
FR 2598801 A	November 20, 1987	N/A
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APPLICATION-DATA:

PUB-NO	APPL-DESCRIPTOR	APPL-NO
APPL-DATE		
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INT-CL (IPC): G01F001/78

ABSTRACTED-PUB-NO: FR 2598801A

BASIC-ABSTRACT: A cylindrical tube (12) carries the fluid
whose mass flow is to
be measured and is itself within a further concentric tube
(14) made from a
stiffer material. Supports (15) accommodate relative axial
movement between
the two tubes due to heating but prevent rotation.
Electromagnetic exciters
(16) induce vibrations in the inner tube which are at
fundamental frequency
when the tube is empty. When however a mass flow takes
place, second mode
vibrations are also created. Sensors, which may be
capacitive, magnetic, or

optical accelerometers, are fitted in pairs at positions a quarter and three quarters along the tube and the difference of their signals is measured. The difference is proportional to the flow. Performance is improved by the provision of springs in the exciters which bring fundamental and second mode frequencies closer together.

USE/ADVANTAGE - Corrosive and viscous liquids or slurries can be handled.

There are no parallel paths to introduce error.

CHOSEN-DRAWING: Dwg.6/10

TITLE-TERMS:

DUAL VIBRATION FREQUENCY FLOW METER FREQUENCY TUNE INNER
OUTER TUBE

ELECTROMAGNET EXCITATION MAGNETIC CAPACITANCE OPTICAL SENSE

ADDL-INDEXING-TERMS:

CORROSION SLURRY

DERWENT-CLASS: S02

EPI-CODES: S02-C01B; S02-C01X;

SECONDARY-ACC-NO:

Non-CPI Secondary Accession Numbers: N1988-012116